

What is claimed is:

1. A medicament dispensing system comprising:

a) a primary storage container for storing a large number of medicament tablets, said primary storage container having an outlet port through which is dispensed said tablets;

b) a counter, operably coupled to said outlet port, that counts tablets dispensed through said outlet port;

c) a plurality of secondary storage containers for storing said tablets;

d) a feed channel network, operably coupled between said counter and said secondary storage containers, that operates in response to first control signals supplied thereto to direct tablets counted by said counter to a select one of said secondary storage containers, to thereby fill said select one secondary storage container with tablets; and

e) a controller, operably coupled to said counter and said feed channel network, that performs a plurality of fill operations each corresponding to a respective one of said plurality of secondary storage containers, wherein each fill operation generates first control signals supplied to said feed channel network such that the corresponding secondary storage container is filled with a given number of tablets counted by said counter.

2. A medicament dispensing system according to claim 1, further comprising:

a discharge port;

means for selectively emptying said plurality of secondary storage chambers for supply to said discharge port in response to second control signals supplied thereto.

3. A medicament dispensing system according to claim 2, wherein:

said controller generates said second control signals in accordance with a desired count value that is input to said controller.

4. A medicament dispensing system according to claim 2, wherein:

said feed channel network includes a bypass channel that supplies tablets directly from said counter to said discharge port without being stored in said plurality of secondary storage compartments.

5. A medicament dispensing system according to claim 1, further comprising:

an overflow storage compartment, operably coupled to said feed channel network.

6. A medicament dispensing system according to claim 5, wherein:

said controller operates during said plurality of fill operations to supply control signals to said feed channel network to store tablets in said overflow storage compartment in the event that tablets counted by said counter exceed said given number of tablets.

7. A medicament dispensing system according to claim 2, wherein:

said secondary storage containers are logically arranged in groups, each group associated with a given number of tablets.

8. A medicament dispensing system according to claim 7, wherein:

a particular group has a plurality of secondary storage containers associated therewith, wherein only one of the secondary storage containers of the particular group is filled at a time.

9. A medicament dispensing system according to claim 7, wherein:

a particular group has a plurality of secondary storage containers associated therewith, wherein more than one of the secondary storage containers of the particular group is emptied at a time.

10. A medicament dispensing system according to claim 7, wherein:

a particular group has a plurality of secondary storage containers associated therewith, wherein one of the secondary storage containers of the particular group is filled simultaneously while another secondary storage container of the particular group is emptied.

11. A medicament dispensing system according to claim 7, wherein:

each group of secondary storage containers is realized by sectors of a circular chamber, wherein openings in an outer wall of said circular chamber provide passageways for tablets to enter and exit said sectors.

12. A medicament dispensing system according to 11, further comprising:

an enclosure that cooperates with said openings of said outer wall of said circular chamber to enable tablets to enter a given sector when the circular chamber is oriented in first predetermined orientation, to enable tablets to exit the given sector and pass to the discharge port when the circular chamber is oriented in second predetermined orientation, and to retain tablets in the given sector in other orientations.

13. A medicament dispensing system according to claim 12, wherein:

said circular chamber is rotated to adjust orientation of the sectors of the circular chamber to enable tablets to enter and exit the sectors of the circular chamber.

14. A medicament dispensing system according to 13, wherein:

tablets enter a given sector when the sector is oriented vertically upwards, and tablets exit the given sector when the sector is oriented vertically downwards.

15. A medicament dispensing system according to claim 1, wherein:

said feed channel network comprises a plurality of electro-mechanically actuated gates corresponding to said plurality of secondary storage containers.

16. A medicament dispensing system according to claim 15, wherein:

said gates correspond to groups of said secondary storage containers, each group associated with a given number of tablets.

17. A medicament dispensing system according to claim 1, wherein:

each fill operation loads a respective one of said plurality of secondary storage containers with 2^n tablets, where n is greater than or equal to zero.

18. A medicament dispensing system according to claim 1, wherein:

each fill operation loads a respective one of said plurality of secondary storage containers with $n \cdot 7$ tablets, where n is greater than or equal to one.

19. A medicament dispensing system according to claim 1, wherein:

each fill operation loads a respective one of said plurality of secondary storage containers with $n \times 10$ tablets, where n is greater than or equal to one.

20. A medicament dispensing system comprising:

a) a plurality of storage containers for storing medicament tablets, said storage containers logically arranged in groups, each group associated with a given number of tablets, wherein at least one particular group has a plurality of storage containers only one of which is filled at a time;

b) a discharge port;

c) means for selectively emptying said plurality of storage chambers for supply to said discharge port in response to control signals supplied thereto.

21. A medicament dispensing system according to claim 20, wherein:

more than one of the storage containers of the particular group is emptied at a time.

22. A medicament dispensing system according to claim 20, wherein:

one of the storage containers of the particular group is filled simultaneously while another storage container of the particular group is emptied.

23. A medicament dispensing system according to claim 20, further comprising:

a controller that generates said control signals in accordance with a desired count value that is input to said controller.

24. A medicament dispensing system according to claim 20, further comprising:

a counter that counts tablets for supply to said plurality of storage compartments.

25. A medicament dispensing system according to claim 24, further comprising:

a bypass channel that directs tablets directly from said counter to said discharge port without being stored in said plurality of storage compartments.

26. A medicament dispensing system according to claim 24, further comprising:

an overflow storage compartment that stores tablets in the event that tablets counted by said counter exceed a given number of tablets that are to be supplied to one of said storage compartments.

27. A medicament dispensing system according to claim 26, further comprising:

means for selectively emptying said overflow storage compartment for supply to said discharge port in response to control signals supplied thereto.

28. A medicament dispensing system according to claim 20, wherein:

each group of secondary storage containers is realized by sectors of a circular chamber, wherein openings in an outer wall of said circular chamber provide passageways for tablets to enter and exit said sectors.

29. A medicament dispensing system according to 28, further comprising:

an enclosure that cooperates with said openings of said outer wall of said circular chamber to enable tablets to enter a given sector when the circular chamber is oriented in first predetermined orientation, to enable tablets to exit the given sector and pass to the discharge port when the circular chamber is oriented in second predetermined orientation, and to retain tablets in the given sector in other orientations.

30. A medicament dispensing system according to claim 29, wherein:

said circular chamber is rotated to adjust orientation of the sectors of the circular chamber to enable tablets to enter and exit the sectors of the circular chamber.

31. A medicament dispensing system according to 30, wherein:

tablets enter a given sector when the sector is oriented vertically upwards, and tablets exit the given sector when the sector is oriented vertically downwards.

32. A medicament dispensing system according to claim 20, wherein:

each group is associated with 2^n tablets, where n is greater than or equal to zero.

33. A medicament dispensing system according to claim 20, wherein:

each group is associated with $n*7$ tablets, where n is greater than or equal to one.

34. A medicament dispensing system according to claim 20, wherein:

each group is associated with $n*10$ tablets, where n is greater than or equal to one.

35. A medicament dispensing system comprising:

a) at least one primary storage container for storing a large number of medicament tablets, said primary storage container having an outlet port through which is dispensed said tablets;

b) a counter, operably coupled to said outlet port, that counts tablets dispensed through said outlet port, wherein said counter is moveable between a plurality of tablet accumulation cells;

c) said plurality of tablet accumulation cells each including

i) a plurality of secondary storage containers for storing said tablets, and

ii) a feed channel network, operably coupled between said counter and said secondary storage containers, that operates in response to first control signals supplied thereto to direct tablets counted by said counter to a select one of said secondary storage containers, to thereby fill said select one secondary storage container with tablets; and

e) a control system, operably coupled to said counter and said tablet accumulation cells, that controls movement of said counter to selectively couple said counter between said outlet port and said feed channel network of a given tablet accumulation cell, and that performs a plurality of fill operations each corresponding to a respective one of said

plurality of secondary storage containers for the given tablet accumulation cell, wherein each fill operation generates first control signals supplied to said feed channel network of the given tablet accumulation cell such that the corresponding secondary storage container is filled with a given number of tablets counted by said counter.

36. A medicament dispensing system according to claim 35, wherein:

each given tablet accumulation cell further comprises
a discharge port; and

means for selectively emptying said plurality of secondary storage chambers for the given tablet accumulation cell for supply to said discharge port in response to second control signals supplied thereto.

37. A medicament dispensing system according to claim 36, wherein:

said control system generates said second control signals in accordance with a desired count value that is input to said control system.

38. A medicament dispensing system according to claim 36, wherein:

said feed channel network of each given tablet accumulation cell includes a bypass channel that supplies tablets directly from said counter to said discharge port without being stored in said plurality of secondary storage compartments of the given tablet accumulation cell.

39. A medicament dispensing system according to claim 35, wherein:

each given tablet accumulation cell includes an overflow storage compartment, operably coupled to said feed channel network of the given tablet accumulation cell.

40. A medicament dispensing system according to claim 39, wherein:

said control system operates during said plurality of fill operations to supply control signals to said feed channel network for the given tablet accumulation cell to store tablets in said overflow storage compartment in the event that tablets counted by said counter exceed said given number of tablets.

41. A medicament dispensing system according to claim 35, wherein:

said feed channel network of each given tablet accumulation cell comprises a plurality of electro-mechanically actuated gates corresponding to said plurality of secondary storage containers.

42. A medicament dispensing system according to claim 35, wherein:

each fill operation loads a respective one of said plurality of secondary storage containers with 2^n tablets, where n is greater than or equal to zero.

43. A medicament dispensing system according to claim 35, wherein:

each fill operation loads a respective one of said plurality of secondary storage containers with $n*7$ tablets, where n is greater than or equal to one.

44. A medicament dispensing system according to claim 35, wherein:

each fill operation loads a respective one of said plurality of secondary storage containers with $n*10$ tablets, where n is greater than or equal to one.